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ABSTRACT

Results of a study to determine the amount of burnout experienced by Alabama public school teachers and principals that could be accounted for by stress related to the Alabama Performance-Based Accreditation Standards, job stress, locus of control, age, and gender are reported in this paper. Objectives of the study were to develop a measure of stress related to the Alabama Performance-Based Accreditation Standards and to determine the amount of variance in educator burnout that could be attributed to the above variables. A battery of pencil and paper instruments were administered to 65 out of 128 elementary and secondary principals and to 242 out of 445 teachers, an overall response rate of 53.6 percent. Findings demonstrate a strong positive relationship between job stress and both emotional exhaustion and depersonalization burnout and a strong negative relationship between job stress and personal accomplishment. Meaningful contributors to burnout included job overload, subordinate and superordinate relationships, and salary. Educators with external control orientations reported less job stress than those with internal control orientations. Peer relationships, age, and gender had no significant effects on burnout. Recommendations are made for the training of administrators to help teachers, the inclusion of stress management courses in educational administration and provision of teacher resources, and increased community financial support. Ten tables are included. (5 references) (LMI)

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THE RELATIONSHIP OF LOCUS OF CONTROL, STRESS RELATED TO PERFORMANCE-BASED ACCREDITATION, AND JOB STRESS TO BURNOUT IN PUBLIC SCHOOL TEACHERS AND PRINCIPALS

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THE RELATIONSHIP OF LOCUS OF CONTROL, STRESS RELATED TO PERFORMANCE-BASED ACCREDITATION, AND JOB STRESS TO BURNOUT IN PUBLIC SCHOOL TEACHERS AND PRINCIPALS

Theoretical Framework

Recent educational reform imperatives have intensified the push for accountability begun in the 1970s. The National Commission on Excellence in Education (1983) in their landmark report, A Nation at Risk, recommended that standardized tests "be administered at major transition points from one level of schooling to another" (p. 28) for the purpose of certifying students' credentials. Many school systems and states have adopted minimum competency testing as "a means of holding the schools accountable for graduation of literate students who would at least be able to perform the basic skills of reading, writing, and arithmetic" (Beard, 1986, p. 1). Educators have also directed efforts toward improving teacher education and staff development, curriculum, and instructional leadership with increased reporting to the general public concerning school progress and the use of funds (Buhler & Roebuck, 1987; Saterfiel & Woodruff, 1985).

Increased state control of educational programs has been reflected in the large number and the scope of state-level reforms initiated since 1983 (Mitchell & Encarnation, 1984) A Nation at Risk reminded state governors, legislators, school board members, and local officials that they have "the primary

responsibility for financing and governing the schools" (National Commission on Excellence in Education, 1983, p. 32, emphasis in the original) and that they should develop educational policies and fiscal plans which embody the proposed reforms.

A number of states have adopted performance-based accreditation as a means of assuring that local school systems are maintaining quality educational programs (Buhler & Roebuck, 1987; Saterfiel & Woodruff, 1985). Originally intended as a means of protecting the developing medical profession and combatting fraud and low quality medical education programs, accreditation has come to be used to certify that certain standards in educational programs have been met (Harcleroad, 1983). Alabama schools are subject to a new performance-based accreditation system for the 1990-1991 school year. The new system is based on 62 performance standards which were introduced in an impact study in 10 school systems during 1989-1990. Some of the stated purposes of the Performance-Based Accreditation System in Alabama are to "provide for verifying and reporting degrees of compliance with accreditation standards," to "serve as a vehicle for the continuous assessment and improvement of educational programs," to "inform the citizens regarding the status of public education, district by district," and to "increase the performance level of students" [Alabama State Department of Education (ASDE), undated, p. 3].

In spite of the stated benefits of the Alabama Performance-Based Accreditation System, many educators may experience

increased stress as a result of its implementation. Some researchers have found that increases in state-mandated programs are potentially stressful to teachers (Hoover-Dempsey & Kendall, 1982; Swick & Hanley, 1980). Educators may find the 13 performance standards which relate to student achievement or the 6 performance standards which address the assessment of student progress to be stressful, or they may be stressed by the standard which declares that local boards of education bear the responsibility of providing the funding necessary for meeting the standards (ASDE, undated). Buhler and Roebuck (1987) found that Texas teachers perceived personal stress to be very high and job satisfaction to be very low following implementation of reform legislation. Teacher testing, a career ladder, and a state-mandated curriculum were central to these reforms. Higher perceived stress levels were associated with a lack of adequate support for reform and a sense of reduced "team spirit" among teachers, as well as lowered respect from the community. While the Texas reforms differed from performance-based accreditation in terms of specific content, the notion of educators being under surveillance by state officials is common to both states and may be a source of stress. Schwartz, Olson, Bennett, and Ginsberg (1983) reported that changes in teachers' working conditions "added burdens which contributed significantly to feelings of isolation and helplessness and a sense of acquiring new responsibility without the authority to accomplish the task or the resources to get the job done" (p. 1).

Blackbourn and Wilkes (1987) averred that the educational reform movement has affected teachers' morale, increased their workload, and "pushed them toward their frustration level" (p. 1). While a few studies have been conducted on a single specific aspect of reform and its effect on educator stress, researchers have found state and federal rules, regulations, and policies to be stressful to administrators (Brimm, 1983; Gmlech & Swent, 1982; Manera & Wright, 1981). Floerke (1988) studied stress factors in public school superintendents in Arkansas and found that for all respondents the greatest stress producer was "complying with the new state standards" (p. 74). In addition, several researchers have found that "trying to gain public approval and/or financial support for school programs," identified by Gmelch, Koch, Swent, and Tung (1982, p. 17), was very stressful to school administrators (Brimm, 1983; Gmelch & Swent, 1982; Manera & Wright, 1981). Gmelch and Swent (1982) observed that "all members of the management team share many common stressors. What plagues superintendents, therefore, similarly plagues other members of their team, from the central office to the schools" (p. 26). In studies of administrators in Arkansas and Oregon most respondents declared that at least 60% of their total life stress resulted from their jobs (Floerke, 1988; Gmelch et al., 1982).

Stress has been found to be mediated by locus of control in a number of educational settings (Farkas, 1983; Halpin, Harris, & Halpin, 1985; Selaty, 1988; Stroud, 1987). In separate studies

Farkas (1983) and Mersky (1988) found that educational reforms and accountability requirements imposed by legislatures of state boards of education left administrators and teachers with feelings of powerlessness.

Friesmen (1986) postulated a negative stress cycle with three distinct stages. At the first stage a stimulus, the stressor, makes demands on the individual, who perceives these demands as exceeding his or her coping resources. This perception of inadequate resources to cope with the stressful situation precipitates the second stage in the cycle, imbalance. If the consequences of failure to meet the demands of the situation are seen as serious, the imbalance increases. The final stage in the stress cycle depends on the individual's perception of the demands, his/her resources, and the seriousness of the failure to meet the demands. This response stage may be mediated by some outside influence which reduces the stress or it may constitute a maladaptive response. One type of maladaptive response is burnout. Burnout is the result of unmediated stress (Farkas, 1984). Dworkin (1987) has characterized burnout as alienation, or the opposite of commitment, reflecting the continued buildup of stressors and a perception on the part of the individual that these circumstances are not apt to change soon. The concept of powerlessness, which has been linked to alienation, "refers to feelings of non-involvement and estrangement experienced by an individual in societal interactions" (Stroud, 1987).

Teachers and principals who experience high degrees of isolation and powerlessness have been found to be more likely to experience burnout (Dworkin, 1987; Sarros, 1988). Burnout may result in early leaving of a teacher or principal or in the loss of effectiveness of the individual who remains in the role.

Researchers have found relationships between teacher stress and decreased job satisfaction, inability to make decisions, diminished self-esteem, and lowered self-confidence and sense of professional competence (Needle, Griffin, Svendsen, & Berney, 1980; Swick & Hanley, 1980; Weiskopf, 1980). These feelings have caused many teachers to leave the profession, and many who stay in teaching while experiencing high levels of stress have negative attitudes and diminished capacities and may be less able to perform with the energy, attention, and capacity for involvement usually associated with better student outcomes. White and Stevens (1988) found that teachers' feelings about teaching, hindrances to teaching (paperwork, interruptions), and collegial relationships with peers had an impact on students' reading scores.

Teachers and administrators who experience negative stress may be subject to any of a large number of physical or psychological disorders, including "coronary heart disease, asthma, kidney and gastrointestinal disease, hostility, depression, and nervous disorders" (Schwartz et al., 1983, p. 2). Golaszewski, Milstein, Duquette, and London (1984) found significantly greater total cholesterol and systolic blood

pressure levels in teachers when compared to national norms by age and education. Educators reporting high levels of stress have also reported feelings of ineffectiveness on the job, anonymity, powerlessness, and confinement (Schwartz et al., 1983). Administrators under stress have been found to block out new information and to procrastinate (Lemley, 1987), thus reducing their effectiveness.

Administrators need an understanding of the sources of stress in themselves and in teachers (Farkas, 1983) and an understanding of the personal and organizational factors which can mediate the effects of stress in order to assure educational efficacy. While performance-based accreditation and similar systems of state accreditation standards have been used in states other than Alabama, no study relating any of these systems to educator stress has been conducted. Hoover-Dempsey and Kendall (1982) conducted an extensive review of the literature on teacher stress and found few studies which have addressed the problem so as to determine specific findings concerning the sources, prevalence, and consequences of stress. In the Oregon (Gmelch & Swent, 1982), Arkansas (Floerke, 1988), and Tennessee (Brimm, 1981) studies, administrators identified compliance with rules, regulations and policies as stressful. However, the researchers did not attempt to determine what proportion of educator stress could be accounted for by this stressor.

Purpose of the Study

The primary purpose of this study was to determine the amount of burnout in Alabama public school teachers and principals which could be accounted for by stress related to the Alabama Performance-Based Accreditation standards, job stress, locus of control, age, and gender. The objectives of the study were:

1. to develop a measure of stress related to the Alabama Performance-Based Accreditation standards;
2. to determine the amount of variance in educator burnout which could be attributed to stress related to the Alabama Performance-Based Accreditation standards, job stress, locus of control, age, and gender.

The following null hypothesis was investigated: There is no relationship between the amount of burnout experienced by Alabama educators and the amount of stress related to the Alabama Performance-Based Accreditation standards, amount of job stress, locus of control, age, and gender.

The following terms were defined for use in this study:

1. Performance-based accreditation - "A system of accountability and assessment of educational performance" (Evans, 1981, p. 18) in relation to stated standards for the purpose of accreditation of a school system.

2 Stress - A condition occurring in an individual when there is "a discrepancy between a problem or challenge and the individual's capacity to deal with or to accommodate to it" (Mechanic, 1970, p. 111). McGrath (1970) added a further qualification "that stress or threat only occurs when the consequences of failure to meet the demand are important; or rather, when they are perceived by the organism to be important" (p. 18).

3. Burnout - "the final step in a progression of unsuccessful attempts to cope with negative stress conditions. Burnout then is the result not of stress per se . . . but of unmediated stress" (Farber, 1984). Maslach (1982) viewed burnout as a "syndrome of emotional exhaustion, depersonalization, and reduced personal accomplishment that can occur among individuals who do 'people work' of some kind. It is a response to the chronic emotional strain of dealing extensively with other human beings" (p. 3).

4. Locus of control - One's "expectancy regarding the controlling influences on personal success and failures" (Keller, Kelly, & Dodge, 1978, p. 22).

> Persons holding an internal perception of control over the rewarding events in one's environment tend to believe that they have considerable control over what happens in their lives, while persons holding external perceptions of control

> tend to believe that events are essentially not in their control and simply happen due to chance or fate (Friedman, Lehrer, & Stevens, 1983, p. 564).

Data Source

The superintendents of 9 of the 10 Alabama school systems which participated in the Impact Study of Alabama Performance-Based Accreditation during the 1989-1990 school year agreed to participate in the survey of educator stress, stress related to the Alabama Performance-Based Accreditation standards, locus of control, and burnout. Subjects were all 128 elementary and secondary principals and a stratified random sample of 445 teachers from the nine school systems. Responses were received from 242 teachers and 65 principals, resulting in an overall response rate of 53.6%. The typical subject was a female teacher, 42 years old, with 15.7 years experience as an educator. The responses of 219 teachers and 58 principals were judged to be usable. Because this response rate was considered to be low, additional surveys were sent to 23 teachers and 7 principals from the original sample who had not already responded, along with a letter requesting their participation in the validation of the results. All seven principals and 13 of the teachers returned usable responses. Responses from this nonrespondent group were compared to those of the earlier respondents by means of *t* tests and were not found to differ significantly. Thus the validity of the data obtained from the respondent group was supported. Table 1 presents the subscale means and standard deviations from the

survey instruments for both the respondent and nonrespondent groups and the results of the t tests, which ranged from -1.179 to 1.782.

Insert Table 1 about here

Methods

Instruments

All subjects completed the Alabama Performance-Based Accreditation Standards Stress Measure; the Measure of Educator Stress; the Internal, Powerful Others, Chance Scales; a demographic sheet; and the Maslach Burnout Inventory.

The Alabama Performance-Based Accreditation Standards Stress Measure

The Alabama Performance-Based Accreditation Standards Stress Measure was developed for this study. The factors of the Alabama Performance-Based Accreditation Standards Stress Measure represented the categories of standards defined by the Alabama State Department of Education. The 43 items were taken directly from the proposed standards but were reworded in order to combine redundant items and to conform to the Likert scale response format. Subjects were asked to indicate whether they perceived a standard to be (0) not stressful, (1) somewhat stressful, (2) considerably stressful, (3) decidedly stressful, or (4) extremely stressful. The six subscales were (a) Student Performance, (b) Personnel, (c) School Environment, (d)

Opportunities-to-Learn, (e) Student Program, and (f) Leadership and Planning. Responses to items in each subscale were summed and divided by the number of items in the subscale to obtain the stress score for the accreditation standards subscales. The RELIABILITY procedure of the SPSS-X statistical package was used to determine the coefficient alpha internal consistency reliability for the Alabama Performance-Based Accreditation Standards Stress Measure. The subscale reliabilities obtained ranged from .72 to .93 (N = 277) and are presented in Table 2.

Insert Table 2 about here.

Measure of Educator Stress

The Measure of Educator Stress was used to measure general job stress in the subjects. The Measure of Educator Stress consists of 39 items representing conditions and events which are stressful to educators. Subjects were asked to indicate whether they perceived the condition or event to be (0) not stressful, (1) somewhat stressful, (2) considerably stressful, (3) decidedly stressful, or (4) extremely stressful. Responses to items in each factor were summed and results were divided by the number of items in the factor to obtain the stress score for that factor.

In an earlier study, the Measure of Educator Stress was developed and piloted. Factor analysis of the data gathered in the pilot administration yielded five factors: Job Overload, Subordinate-Superordinate Relationships, Relationships with

Students, Relationships with Peers, and Salary and Compensation. The RELIABILITY procedure of the SPSS-X statistical was used to determine Chronbach's coefficient alpha internal consistency reliability for each of the five factors. Subscale reliabilities ranged from .84 to .95 for the pilot sample (N = 236). The RELIABILITY procedure of the SPSS-X statistical package was used to determine Chronbach's coefficient alpha internal consistency reliability for the sample from the present survey administration of the Measure of Educator Stress. Subscale reliabilities ranged from .91 to .96 (N = 277). Reliabilities obtained from the pilot and present survey administrations are presented in Table 3.

Insert Table 3 about here

The Maslach Burnout Inventory, Second Edition

The Maslach Burnout Inventory, Second Edition, (Maslach & Jackson, 1986) resulted from approximately 8 years research on the concept of burnout. According to Maslach (1981) burnout consists of three components: Emotional Exhaustion, Depersonalization, and reduced Personal Accomplishment. Form ED of the Maslach Burnout Inventory was developed to measure these three components in teachers.

The Maslach Burnout Inventory consists of 22 items that reflect the frequency of the subject's feelings and attitudes defining the components of burnout. Respondents were asked to indicate how often they experienced feelings suggested by the 22

statements. A 7-point Likert-type response ranges from (0) never to (6) every day. Nine items make up the emotional Exhaustion subscale, five items make up the Depersonalization subscale, and eight items make up the Personal Accomplishment subscale. Subscale scores were determined by adding the responses on each subscale item together. Higher scores on the Emotional Exhaustion and Depersonalization subscales and lower scores on the Personal Accomplishment subscales indicated higher levels of burnout.

The reported reliability statistics of Form ED consist of Cronbach's coefficient alpha estimates ranging from .76 for the Depersonalization and Personal Accomplishment subscales to .90 for the Emotional Exhaustion subscale (N = 469) (Iwanicki & Schwab, 1981). The same authors investigated the construct validity of Form ED by using factor analytic techniques. "Results indicated that when employed with teachers, the Maslach Burnout Inventory measures the same basic constructs or factors as those identified through studies in the helping professions" (p. 1167).

Coefficient alpha internal consistency reliabilities were determined for the present sample using the RELIABILITY program of the SPSS-X statistical package and are presented for comparison in Table 4.

Insert Table 4 about here.

The Internal, Powerful Others, and Chance Scales

Locus of control was measured using the Internal, Powerful Others, and Chance Scales developed by Levenson (1972). Adapted from Rotter's (1966) Internal-External Scale, the Internal, Powerful Others, and Chance Scales consist of 24 items developed to measure expectancies of three dimensions of control: internal, powerful others, and chance. Levenson postulated an external dimension of control having two distinct aspects. Control by powerful others is somewhat predictable and leaves room for some influence by the individual, while control by chance, luck, or fate is unpredictable and unable to be influenced by the individual.

A 6-point Likert-type response format is presented for each of the 24 items. Subjects were asked to indicate the extent to which they agreed or disagreed with each statement presented. Suggested responses range from strongly disagree (-3) to strongly agree (+3), with the 0 point excluded. The Internal, Powerful Others, and Chance Scales are represented by eight items each. Because the scale items are independent of each other, it is theoretically possible to score high or low on each of the three dimensions of control (Levenson, 1972).

Scoring was accomplished by adding the responses to the items on each of the respective scales. In order to avoid negative scores, 24 points were added to each scale score, creating a range of possible scores of 0 to 48. High scale

scores indicated a perceived high belief in the orientation to control represented by the scale.

Although internal consistency reliabilities were only moderately high, they correlate favorably with those obtained by Rotter. Kuder-Richardson reliability indices for an adult sample (N = 96) were .64, .77, and .78 for the Internal, Powerful Others, and Chance Scales respectively. Split-half reliabilities, using Spearman-Brown formulas, were .62 for the Internal Scale, .66 for the Powerful Others Scale, and .64 for the Chance Scale. Test-retest reliabilities after 1 week ranged from .64 to .78 (Levenson, 1974).

Reliability of this instrument with the present sample was established using the RELIABILITY program of the SPSS-X statistical package. Chronbach's coefficient alpha for the subscales ranged from .60 to .75. Reliabilities are presented in Table 5 and compared with those obtained by Levenson (1974).

Insert Table 5 about here.

Data Analysis

Data from the respondent group were divided into two sets. Set 1 contained the five subscales of the Measure of Educator Stress; the six subscales of the Alabama Performance-Based Accreditation Standards Stress Measure; the Internal, Powerful Others, and Chance Scales; age; and gender. Set 2 contained the three subscales of the Maslach Burnout Inventory. Canonical

correlation analysis was used to investigate the relationships between the two sets of variables. Lodgings and cross-loadings were examined to determine specific relationships.

Results

Canonical correlation analysis was used to determine whether a multivariate relationship existed between the Set 1 variables of the job overload, subordinate-superordinate relationships, relationships with students, relationships with peers, and salary and compensation subscales of the Measure of Educator Stress; stress related to the student performance, personnel, school environment, opportunities-to-learn, student progress, and leadership and planning categories of the Alabama Performance-Based Accreditation standards; the Internal, Powerful Others, and Chance Scales; age; and gender and the Set 2 variables of emotional exhaustion, depersonalization, and personal accomplishment, as measured by the Maslach Burnout Inventory. Canonical loadings and cross-loadings, adequacy indices, and redundancy indices were examined. Of the three possible canonical roots, the canonical correlations for Roots 1 and 2 were determined to be significant at the .05 level, and the null hypothesis was rejected. The Pearson correlation coefficients for the variables in Sets 1 and 2 are presented in Table 6. The canonical weights of the three possible canonical roots are presented in Table 7, the eigenvalues and canonical correlations are presented in Table 8, and the Wilks' lambda and levels of significance are presented in Table 9.

Insert Table 6 about here.

Insert Table 7 about here.

Insert Table 8 about here.

Insert Table 9 about here.

The data from this study indicate that relationships do exist between burnout and the set of variables including job stress, stress related to Alabama Performance-Based Accreditation, locus of control, age, and gender in Alabama teachers and principals. The cross-validation procedure comparing the respondent sample (N = 277) with the nonrespondent sample (N = 19) resulted in no significant values for t, indicating the validity of results.

The canonical correlation analysis of the Set 1 variables (job stress, stress related to the Alabama Performance-Based Accreditation standards, locus of control, age, and gender) and the Set 2 variables (emotional exhaustion, depersonalization, and personal accomplishment) indicated the existence of a significant relationship. The adequacy indices for Root 1 of .2123 for Set 1

and .5275 for Set 2 indicate that the canonical variates for the Set 1 and Set 2 variables represent them well, and the redundancy index for the Set 2 variate indicates that a meaningful proportion (28.10%) of the raw score variance in the Maslach Burnout Inventory is accounted by the canonical variate representing the Set 1 variables. The redundancy index for the Set 1 variate indicates that 11.31% of the raw score variance in the 16 Set 1 variables is accounted for by the canonical variate representing burnout. Table 10 presents the adequacy and redundancy indices and the canonical loadings and cross-loadings for Roots 1 and 2.

Insert Table 10 about here.

The canonical loadings and cross-loadings for Root 1 of the first canonical correlation analysis indicate a strong positive relationship between the job stress and both emotional exhaustion and depersonalization burnout and a strong negative relationship between job stress and personal accomplishment. These findings are supported by those of earlier researchers. Maslach (1982) found that many job settings which were burnout-prone had overload in common. Harris, Kagay, and Leichenko (1985) found that teachers who were experiencing high degrees of stress also mentioned burnout as a problem for them and were more likely to consider leaving the profession than teachers who did not claim to be working under stress. Sarros (1988) also identified

relationships among stress, a desire to leave work, and burnout in administrators. The Job Overload, Subordinate-Superordinate Relationships, Relationships with Students, and Salary and Compensation subscales of the Measure of Educator Stress made significant and meaningful contributions to the variance in all nine forms of burnout, indicating the pervasiveness of job stress as a problem for educators. Of the subscales of the Measure of Educator Stress, only Relationships with Peers did not have an interpretable loading or cross-loading on Root 1, indicating the lack of a meaningful relationship with burnout. This finding is in contrast to previous burnout research (Brissie, Hoover-Dempsey, & Bassler, 1988; Schwab, Jackson & Schuler, 1986) but is supported by Dworkin, Haney, Dworkin, and Telschow, (1990) who found that peer support did not reduce stress-induced illness. A lower perception of stress from peer relationships than from the other factors by the present sample may account for this finding. Peer relationships were described as not stressful, slightly stressful, or moderately stressful by 86.6% of the respondents.

Loadings and cross-loadings of interpretable size were also obtained for the School Environment, Opportunities-to-Learn, Student Progress, and Leadership and Planning subscales of the Alabama Performance-Based Accreditation Standards Stress Measure, indicating a significant and meaningful relationship between the subscales and burnout. Cross-loadings indicated that school environment standards stressors, opportunities-to-learn standards stressors, student progress standards stressors, and leadership

and planning standards stressors were related to burnout. Educators who are experiencing stress from these categories of standards are more likely to experience all forms of burnout. School environment standards address aspects of school facilities and school climate. Opportunities-to-learn standards address curricular offerings, instructional strategies, the presence of adequate instructional supplies and equipment, instructional support services, class sizes, and pupil-teacher ratios. Student progress standards address assessment of student learning and the uses of the assessments. Leadership and planning standards address the supervision of the instructional program, local school system governance, leadership at the school and system level, and involvement of the community in planning for the instructional program. Educators may believe that implementation of these standards is beyond their control, especially given that funding is left up to the local school system but that they will still be held accountable. They may feel that additional duties will be required of them or that they will be called upon to perform duties for which they are inadequately prepared. Maslach (1982) found burnout to be related to institutional rules and policy decisions in which the worker has had no input. Phillips and Lee (1980) reported that being held accountable for learning outcomes was stressful to teachers, because the teachers believed that the learning outcomes were largely the result of factors over which they had no control. Adams (1975) found that teachers felt frustrated and burned out when changes were demanded of them

without their being given the means and authority to implement the changes, and administrators were found to be highly stressed by compliance with rules in several studies (Brimm, 1983; Gmelch & Swent, 1981, 1982; Lam, 1988; Manera & Wright, 1981). Buhler and Roebuck (1987) found educator reaction to reforms to be negative for all groups, with job stress rated as very high.

The negative loading and cross-loading for the Internal Scale and the positive loadings and cross-loadings for the Powerful Others and Chance Scales indicate that educators with a more internal control orientation experienced less burnout and that educators with more external control orientations, either toward control by powerful others or by chance, experienced more burnout. These findings support the theory that burnout is reduced when one perceives oneself to be able to control a situation. Maslach (1982) found that burnout was high whenever people sensed a lack of control over their situation, and Kyriacou and Sutcliffe (1979) obtained a significant correlation between self-reported stress in teachers and externality. Phares (1976) also reported that an ability to cope with a potentially threatening situation was directly related to the expectancy that the situation was controllable, rather than under the influence of chance or of other powerful people.

The strong loadings and cross-loadings obtained for the subscales of the Maslach Burnout Inventory on Root 1 indicate the strength of the relationship between the Set 1 canonical variate and burnout. An educator who experiences a high degree of job

stress, stress related to the Alabama Performance-Based Accreditation standards, and has an orientation to control by chance or powerful other is more likely to experience burnout than one who experiences lower job stress, lower stress related to the Alabama Performance-Based Accreditation standards, and have an internal control orientation.

The lack of contribution of stress related to peer relationships and the variables of age and gender to this root suggests that there are not well-defined relationships between burnout and peer relationships, age, or gender when the other variables in Set 1 are considered.

The low adequacy and redundancy indices and the lack of interpretable cross-loadings for Root 2 suggest that caution is needed when interpreting the loadings obtained. The redundancy index for the Set 2 variate indicates that only 4.18% of the raw score variance in burnout is accounted for by the Set 1 canonical variate, and only 1.67% of the raw score variance in the Set 1 variables (job stress, stress related to the Alabama Performance-Based Accreditation standards, locus of control, age, and gender) is accounted for by the canonical variate representing burnout. However, the canonical loadings suggest that increasing stress related to job overload and decreasing stress related to personnel standards, school environment standards, opportunities-to-learn standards, student progress standards, and leadership and planning standards for females may be related to greater feelings of personal accomplishment and reduced depersonalization

burnout. The finding relating stress from increased job responsibilities and reduced stress from accreditation standards to a sense of personal accomplishment seems to be supported by research suggesting the positive aspects of stress (Hoover-Dempsey & Kendall, 1982). Schwab (1983) found males in his study to have more negative attitudes toward their students than females, supporting the present findings concerning gender.

Recommendations

The findings of this study suggest that Alabama educators are experiencing a significant amount of stress related to their job situations and to the Alabama Performance-Based Accreditation standards and that this stress is mediated by locus of control.

Schools and school systems must change in order to meet the needs of a changing society, and a performance-based accreditation system may provide the solution needed for school improvement. However, because change has been shown to be less stressful when one has had an opportunity for participation in it, teachers and principals should be involved extensively in plans for the full implementation of any major reform in the educational system. Educators who are not directly involved in the plans for implementation should be fully informed of the agenda and its ramifications for their personal work situations. Staff development courses aimed at developing a more internal locus of control should be developed, with resulting research to determine whether changing one's control orientation reduces stress.

Researchers at the University of Texas have developed a model for staff development based on educators' levels of concern for the implementation of innovation (Hall, Loucks, Rutherford, & Newlove, 1975). Using their model to measure the reactions of teachers and principals to the implementation of performance-based accreditation, plans for staff development could be made which will move educators through stages from vague awareness of the system to refocusing on the benefits of performance-based accreditation and retraining to develop the individual skills needed to make the system work. Training for acceptance of the new system should begin with the principals, who will serve as the facilitators of the changes needed in their schools. Through cooperation and coordination within the schools, the principals should lead teachers to apply their creativity to finding new ways to meet the new standards, rather than focusing on their apparent impossibility.

Because change will always be necessary in educational settings, and stress accompanies change, undergraduate and graduate educator preparation programs and school system staff development programs should include courses in stress management. In addition, school systems should provide resources and encouragement for physical exercise programs and support groups to intervene before educators burn out.

Of the performance-based accreditation standards stressors which were found to contribute significantly to educator burnout, many reflect situations which educators may perceive to be beyond

their control because of problems associated with adequate funding. School systems need to involve their local communities in the plans for the future of education for their young people in order to enlist the financial and moral support necessary to implement change in the schools. Legislators must be convinced that schools cannot improve without adequate funds. As educators move toward enthusiastic acceptance of the new standards, the local community may begin to see the importance of making a priority of funding school improvements.

Table 1

Variable or Subscale Means and Standard Deviations for Respondent and Nonrespondent Samples and Obtained Values of *t*

Variable or subscale	M		SD		
	NR	R	NR	R	*t*
Job overload	1.90	2.05	0.912	1.089	0.703
Subordinate-superordinate relationships	1.25	1.43	1.020	1.123	0.760
Relationships with students	1.45	1.92	1.146	1.077	1.782
Relationships with peers	0.95	1.16	0.887	1.056	1.018
Compensation	2.00	1.95	1.214	1.386	-0.166
Student performance	0.95	1.08	0.759	0.896	0.708
Personnel	0.95	0.81	1.146	0.890	-0.539
School environment	1.30	1.16	1.129	1.197	-0.526
Opportunities-to-learn	1.15	1.01	1.089	1.030	-0.553
Student progress	1.00	1.09	0.973	1.134	0.395
Leadership and planning	1.05	0.97	0.945	0.955	-0.361

Table 1 (Continued)

Variable or Subscale Means and Standard Deviations for Respondent and Nonrespondent Samples and Obtained Values of *t*

Variable or subscale	M		SD		
	NR	R	NR	R	*t*
Internal Scale	37.15	37.44	6.564	6.250	0.191
Powerful Others Scale	19.70	19.75	7.138	9.021	0.028
Chance Scale	14.85	14.09	7.597	7.790	-0.429
Age	42.30	42.03	7.740	9.396	-0.149
Gender	1.65	1.83	0.489	0.389	1.574
Emotional exhaustion	17.55	20.23	11.335	11.276	1.020
Depersonalization	3.90	5.40	4.077	5.023	1.566
Personal accomplishment	41.65	40.35	4.648	5.964	-1.179

Note.

M = Mean

SD = Standard deviation

NR = Nonrespondent group (*N* = 20)

R = Respondent group (*N* = 277)

Table 2

Reliability Coefficients for the Alabama Performance-Based Accreditation Standards Stress Measure

Subscale	Chronbach's alpha (N = 277)
Student Performance	.87
Personal	.76
School Environment	.72
Opportunities-to-Learn	.93
Student Progress	.93
Leadership and Planning	.90

Table 3

Reliability Coefficients for the Measure of Educator Stress

Subscale	Chronbach's alpha	
	Survey sample (N = 277)	Pilot sample (N = 236)
Job Overload	.94	.95
Subordinate-Superordinate Relationships	.92	.93
Relationships with Students	.92	.84
Relationships with Peers	.91	.84
Salary and Compensation	.96	.86

Table 4

Reliablity Coefficients for the Maslach Burnout Inventory Subscales

Subscale	Chronbach's alpha	
	Survey sample (N = 277	Iwanicki & Schwab sample (N = 469)
Emotional Exhaustion	.91	.90
Depersonalization	.69	.76
Personal Accomplishment	.74	.76

Table 5

Reliability Coefficients for the Levenson Internal, Powerful Others, and Chance Scales

Scale	Chronbach's alpha	
	Survey sample (N = 277)	Levenson's sample (N = 96)
Internal	.60	.64
Powerful Others	.75	.77
Chance	.69	.78

Table 6

Pearson Correlation Coefficients for Variables in Sets 1 and 2

	LOAD	SUBSUP	STDNTS	PEERS	SAL	STPERF	PERS	SCHENV	OPPLRN	STPRG	LDR	I	P	C	AGE	GNDR	EE	DP	PA
Job overload (LOAD)	1.000	.5192	.4717	.3610	.6206	.3321	.2871	.2732	.3831	.3291	.3606	-.1833	.2698	.1797	-.1310	.2688	.6038	.2872	-.1561
		.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.001	.000	.001	.015	.000	.000	.000	.005
Subordinate-superordinate relationships (SUBSUP)		1.000	.4747	.6521	.4880	.3566	.3362	.3387	.3707	.3946	.4075	-.1623	.3166	.2029	-.1331	.1380	.4287	.3269	-.1451
		.	.000	.000	.000	.000	.000	.000	.000	.000	.000	.004	.000	.000	.013	.011	.000	.000	.008
Relationships with students (STDNTS)			1.000	.3524	.3599	.3105	.2938	.3134	.3602	.3901	.3837	-.1492	.2951	.3282	-.0916	.2007	.4901	.3715	-.2308
			.	.000	.000	.000	.000	.000	.000	.000	.000	.006	.000	.000	.064	.000	.000	.000	.000
Relationships with peers (PEERS)				1.000	.3112	.3017	.2369	.3152	.2895	.2965	.3587	-.0805	.2080	.2217	-.1583	.0674	.2209	.2060	-.0412
				.	.000	.000	.000	.000	.000	.000	.000	.091	.000	.000	.005	.132	.000	.000	.171
Salary and compensation (SAL)					1.000	.2724	.2423	.2305	.2933	.2543	.2887	-.1367	.2678	.1865	-.1320	.1185	.4515	.2858	-.2288
					.	.000	.000	.000	.000	.000	.000	.011	.000	.001	.014	.024	.000	.000	.002
Student performance (STPERF)						1.000	.5134	.4412	.4792	.4282	.5399	-.1251	.2275	.1543	-.1297	.0142	.1569	.1872	-.0457
						.	.000	.000	.000	.000	.000	.019	.000	.005	.015	.408	.000	.000	.000
Personnel (PERS)							1.000	.7293	.7096	.6345	.6827	-.1723	.1699	.1478	-.1234	.0190	.2071	.2150	-.2117
							.	.000	.000	.000	.000	.002	.002	.007	.020	.376	.000	.000	.000
School environment (SCHENV)								1.000	.7993	.7635	.7761	-.1393	.1783	.1588	-.0995	-.0016	.2820	.3035	-.2856
								.	.000	.000	.000	.010	.001	.004	.049	.490	.000	.000	.000
Opportunities to learn OPPLRN)									1.000	.7722	.7907	-.1312	.1857	.1568	-.1656	.0303	.3141	.3487	-.2538
									.	.000	.000	.014	.001	.004	.001	.308	.000	.000	.000
Student progress (STPRG)										1.000	.7925	-.1476	.2322	.1680	-.0980	.0758	.2795	.3070	-.2536
										.	.000	.001	.000	.001	.052	.104	.000	.000	.000
Leadership and planning (LDR)											1.000	-.1759	.2478	.1773	-.1049	-.0055	.3053	.3044	-.2469
											.	.002	.000	.002	.041	.464	.000	.000	.000
Internal (I)												1.000	-.1273	-.1838	.1012	.2012	-.2966	-.1551	.1834
												.	.017	.001	.046	.000	.000	.005	.001
Powerful others (P)													1.000	.6311	-.0119	.0670	.3036	.2349	-.2047
													.	.000	.422	.133	.000	.000	.000
Chance (C)														1.000	-.1004	.1011	.3090	.2232	-.2202
														.	.048	.046	.000	.000	.000
Age															1.000	-.0585	-.1204	.1343	-.0233
															.	.166	.023	.013	.350
Gender (GNDR)																1.000	.1206	-.0692	.0860
																.	.022	.130	.077
Emotional exhaustion (EE)																	1.000	.6062	-.3492
																	.	.000	.000
Depersonalization (DP)																		1.000	-.3560
																		.	.000
Personal Accomplishment (PA)																			1.000
																			.

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Table 7

Canonical Weights of the Three Possible Canonical Roots

Variable	Root 1		Root 2		Root 3	
	Raw	Standard	Raw	Standard	Raw	Standard
			Set 1			
Job overload	.53662	.58176	.70163	.76065	-.24056	-.26080
Subordinate-superordinate relationships	.19960	.22409	-.03488	-.03916	.21692	.24353
Relationships with students	.28058	.30224	-.18380	-.19799	.25535	.27506
Relationships with peers	-.23694	-.24989	.04027	-.04027	.33924	.35779
Salary and compensation	.05987	.08275	-.11014	-.15224	.01917	.02649
Student Performance	-.26353	-.23603	.08515	.07627	.54688	.48982
Personnel	-.17446	-.15535	.05691	.05068	-.46899	-.41763
School environment	.25453	.30477	-.14100	-.16883	-.32972	-.39479
Opportunities to learn	.04225	.04345	-.43277	-.44513	.70252	.72258
Student progress	-.09550	-.10753	-.29345	-.33042	-.11574	-.13033
Leadership and planning	.04663	.04427	.19235	.18259	-.22968	.21803
Internal	-.03978	-.24866	.00686	-.04289	.03251	.20316

Table 7 (Continued)
Canonical Weights of the Three Possible Canonical Roots

Variable	Root 1		Root 2		Root 3	
	Raw	Standard	Raw	Standard	Raw	Standard
			Set 1			
Powerful others	.00219	.01976	-.00944	-.08516	.01978	.17842
Chance	.02763	.21521	-.02317	-.18047	-.07137	-.55597
Age	-.00340	-.03177	.00553	.05164	-.02970	.27757
Gender	-.43698	.16982	1.19564	.46464	-.00911	-.00354
			Set 2			
Emotional exhaustion	.08383	.94531	.07517	.84757	-.01307	-.14710
Depersonalization	-.00538	-.02702	-.17317	-.86993	.18729	.94081
Personal accomplishment	-.02829	-.16872	.10624	.63363	.14553	.85793

Table 8
Eigenvalues and Canonical Correlations

Statistic	Root 1	Root 2	Root 3
Eigenvalue	1.14013	0.19542	0.07098
Percentage	81.05972	13.89398	5.04631
Canonical correlation	.72989	.40432	.25744
Squared correlation	.53274	.16348	.06627

Table 9

Wilks' Lambda and Level of Significance
of the Three Possible Canonical Roots

Roots	Wilk's lambda	F	df	Significance of F
1 to 2	.3650	6.455	48.00	.000
2 to 3	.7811	2.270	33.00	.000
3 to 3	.9337	1.318	14.00	.196

Table 10

Canonical Loadings, Cross-Loadings, Adequacy, and Redundancy of the Two Significant Canonical Roots

Variable	Canonical loading		Canonical cross-loading	
	Set 1			
	Root 1	Root 2	Root 1	Root 2
Job overload	.8108	.4018	.5893	.1629
Subordinate-super-ordinate relationships	.5817	-.0334	.4209	-.0130
Relationships with students	.6779	-1349	.4922	-.0541
Relationships with peers	.2932	-.0459	.2102	-.0181
Salary and compensation	.6171	.0598	.4482	.0246
Student performance	.2274	-.1512	.1509	-.0589
Personnel	.3188	-.3617	.2257	-.1456
School environment	.4275	-.5104	.3065	-.2060
Opportunities-to-learn	.4608	-.4906	.3304	-.1979
Student programs	.4192	-.4902	.3006	-.1979
Leadership and planning	.4508	-.4028	.3221	-.1625
Internal	-.4215	.0000	-.3071	-.0002
Powerful others	.4347	-.1907	.3152	-.0767
Other	.4555	-.2568	.3316	-.1035

Table 10 (Continued)

Canonical Loadings, Cross-Loadings, Adequacy, and Redundancy of the Two Significant Canonical Roots

Variable	Canonical loading		Canonical cross-loading	
		Set 1		
	Root 1	Root 2	Root 1	Root 2
Age	-.1548	.0738	-.1141	.0296
Gender	.1381	.5336	.1014	.2158
Adequacy index				
Root 1	.2123			
Root 2	.1019			
Redundancy index				
Root 1	.1131			
Root 2	.0167			
		Set 2		
	Root 1	Root 2	Root 1	Root 2
Emotional exhaustion	.9879	.0989	.7210	.0398
Depersonalization	.6061	-.5817	.4443	-.5817
Personal accomplishment	-.4892	.6473	-.3564	.2614
Adequacy index				
Root 1	.5275			
Root 2	.2557			
Redundancy index				
Root 1	.2810			
Root 2	,0418			

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